

### **EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Bea Koempel-Thomas on June 19<sup>th</sup>, 2008.

The application has been amended as follows:

Please amend the specification as follows:

Substitute the paragraph beginning on page 8, line 23 with the following:

A variety of different compression techniques can be used to generate a highly compressed content piece. One such technique is described in a co-pending U.S. Patent Application No. \_\_\_\_\_ No. 09/843,254, filed \_\_\_\_\_ filed April 24, 2001, now issued U.S. Patent No. 6,973,574, entitled "Recognizer of Audio-Content in Digital Signals", to M. Kivanc Mihcak and Ramarathnam Venkatesan, attorney docket no. MS1-645US, which is hereby incorporated by reference. Another compression technique that can be used is based on the energy of the content over time. The energy of audio content can be calculated over a variety of different energy bands, and using a variety of different techniques. In one implementation the energy is calculated by dividing the audio into fixed-sized segments (e.g., 10 millisecond segments) and then computing the sum of the squares of the signed audio samples in each segment. By way of example, a song may be compressed by reducing the song to a list of energies computed for each 10 millisecond segment of the song. A number of contiguous groups of energies from this list are then extracted in any of a variety of different manners, such as at

random. Groups of energies are extracted from this list, and in one implementation 10 groups of 100 samples of the energy (each representing a total of one second of the song) are extracted. These extracted energy groups for a particular song are then used as the highly compressed content piece for the corresponding song. In situations where multiple channels are associated with the content (e.g., left and right channels for stereo audio content), the energies of these channels can be added together. Alternatively, other channel selection or combinations may be used, such as selecting the loudest channel, representing the energies independently, etc.

Substitute the paragraph beginning on page 13, line 17 with the following:

Fig. 3 is a block diagram illustrating an exemplary content player in more detail. Content player 106 includes a storage device 160, which may be any of one or more types of storage devices including both volatile and non-volatile memory. For example, storage device 160 may be one or more of random access memory (RAM), read-only memory (ROM), ~~Flash~~ flash memory, magnetic disk, optical disk, etc. Storage device 160 optionally includes content 130 to display to a user of player 106 via an output controller 162. Output controller 162 renders content 130 via one or more output devices (not shown) of player 106. The exact nature of output controller 162 can vary depending on the type of content to be rendered. For example, output controller 162 may convert digital content 130 into analog signals for playback of audio content by one or more speakers, output controller 162 may be a conventional video controller for outputting video signals, etc.

Substitute the paragraph beginning on page 19, line 21 with the following:

Computer 342 operates in a networked environment using logical connections to one or more remote computers, such as a remote computer 388. The remote computer 388 may be another personal computer, a server, a router, a network PC, a peer device or other common network node, and typically includes many or all of the elements described above relative to computer 342, although only a memory storage device 390 has been illustrated in Fig. 5. The

logical connections depicted in Fig. 5 include a local area network (LAN) 392 and a wide area network (WAN) 394. Such networking environments are commonplace in offices, enterprise-wide computer networks, intranets, and the Internet. In certain embodiments of the invention, computer 342 executes an Internet Web browser program (which may optionally be integrated into the operating system 370) such as the “Internet Explorer” INTERNET EXPLORER™ Web browser manufactured and distributed by Microsoft Corporation of Redmond, Washington.

Please amend the claims as follows:

**1. (Currently Amended)** A system comprising:

a source database storing a plurality of highly compressed content pieces, wherein highly compressed content pieces comprise groups of energy samples of content, the highly compressed content pieces are versions of portions of content that are created in a manner ~~so such that~~ that the highly compressed content pieces cannot be decompressed into an intelligible form and the highly compressed content pieces can be compared to uncompressed content for equality, the uncompressed content having undergone conversion comprising conversion between digital and analog; and

a content player, coupled to the source database, the content player comprising:

an interface configured to receive a subset of the plurality of highly compressed content pieces from the source database;

a storage device configured to store the subset, wherein the number of pieces included in the subset being is based on the available memory in the storage device and the storage required for each piece;

a comparator configured to:

extract an energy sample for each segment of a portion of media content in the content player using a predetermined technique, wherein the same predetermined technique was used to generate the highly compressed content pieces;

select a group of the energy samples of the media content, the group having the same number of energy samples as the groups of the highly compressed content pieces;

compare the subset stored in the storage device to a portion of the media content located in the content player, wherein comparing comprises comparing the energy samples in each group of the highly compressed content pieces to the energy samples of the group selected based on the media content; and configured to

determine whether the media content matches any of the plurality of highly compressed content pieces in the subset, determining comprising identifying a match between a group of energy samples of a highly compressed content piece and the group of the energy samples of the portion of media content to be played back when the difference between the energy samples of the two groups is within a threshold amount;

a resolver configured to take particular action responsive to the comparator indicating the content matches one of the plurality of highly compressed media content pieces in the subset, the particular action comprising:

contacting a remote device to perform a more thorough analysis of whether the content matches any of the plurality of highly compressed content pieces; and

notifying a publisher of the media content of the an existence of pirated media content; and

an output controller configured to render the media content in an event that the comparator indicates the media content does not match any of the highly compressed content pieces in the subset.

**2. (Currently Amended)** A system as recited in claim 1, wherein the comparator is to compare the subset to media content being played by the content player.

**3. (Original)** A system as recited in claim 1, wherein the content player is coupled to the source database via the Internet.

**4. (Original)** A system as recited in claim 1, wherein the plurality of highly compressed content pieces comprises a plurality of highly compressed audio pieces.

**5.** (Original) A system as recited in claim 1, wherein the plurality of highly compressed content pieces comprises a plurality of highly compressed video pieces.

**6.** (Previously Presented) A system as recited in claim 1, wherein the plurality of highly compressed content pieces comprises a plurality of highly compressed audio and video pieces.

**7.** (Original) A system as recited in claim 1, wherein the interface is further to subsequently communicate with the source database, retrieve a new subset of the plurality of highly compressed content pieces from the source database, and replace the subset in the storage device with the new subset.

**8.** (Original) A system as recited in claim 1, further comprising a content source coupled to the content player, and wherein the content player further comprises a compressor to receive content from the content source, generate a highly compressed content piece based on the received content, and add the generated highly compressed content piece to the subset in the storage device.

9. (Currently Amended) A system comprising:

a source database storing a plurality of highly compressed content pieces, wherein highly compressed content pieces comprise groups of energy samples of content, the highly compressed content pieces are versions of portions of content that are created in a manner so such that the highly compressed form cannot be decompressed into an intelligible form yet can be compared to uncompressed content for equality and the uncompressed content has undergone conversion comprising conversion between digital and analog; and

a content player, coupled to the source database, the content player including,

an interface to receive a subset of the plurality of highly compressed content pieces from the source database,

a storage device to store the subset, wherein the number of pieces included in the subset can vary based on the available memory in the storage device and the storage required for each piece,

a comparator configured to:

extract an energy sample for each segment of a portion of media content in the content player using a predetermined technique, wherein the same predetermined technique was used to generate the highly compressed content pieces,

select a group of the energy samples of the media content, the group having the same number of energy samples as the groups of the highly compressed content pieces,

compare the subset stored in the storage device to a portion of the media content located in the content player, wherein comparing

comprises comparing the energy samples in each group of the highly compressed content pieces to the energy samples of the group selected based on the media content and

determine whether the media content matches any of the plurality of highly compressed content pieces in the subset, determining comprising identifying a match between a group of energy samples of a highly compressed content piece and the group of the energy samples of the portion of media content to be played back when the difference between the energy samples of the two groups is within a threshold amount and

a resolver to take particular action in response to the comparator indicating the media content matches one of the plurality of highly compressed content pieces in the subset, the particular action comprising notifying a publisher of the media content of an existence of pirated media content, and

wherein the storage device is further to store a plurality of licenses identifying media content that a user of the content player is authorized to playback, and wherein the particular action comprises the resolver checking whether one of the plurality of licenses corresponds to the media content and contacting a remote device to perform a more thorough analysis of whether the media content matches any of the plurality of highly compressed content pieces.

**10. (Original)** A system as recited in claim 9, wherein each of the plurality of highly compressed content pieces in the subset further indicates whether one of the plurality of licenses is required for playback of the content.

**11. (Currently Amended)** A system as recited in claim 1, wherein the storage device is further to store the media\_content.

**12. (Currently Amended)** A system as recited in claim 1, further comprising a content source, coupled to the content player, from which the media content is received.

**13. (Currently Amended)** A system as recited in claim 12, wherein the content player receives the media content from the content source in its entirety before playback of the media content begins.

**14. (Currently Amended)** A system as recited in claim 1, wherein the comparator is to determine whether the media\_content matches any of the plurality of highly compressed content pieces in the subset by comparing a first set of feature values associated with each of the plurality of highly compressed content pieces with a second set of feature values associated with the media content, and checking whether at least a threshold number of the first set of feature values is within threshold distance of the second set of feature values.

**15. (Original)** A system as recited in claim 14, wherein the first set of feature values and the second set of feature values each comprises a set of audio energy features.

**16. (Currently Amended)** A device media player comprising:  
a memory to store one or more highly compressed content pieces, the content comprising audio content, wherein highly compressed content pieces comprise groups of energy samples of content, the highly compressed content pieces are versions of portions of content that are created in a manner so such that the highly compressed form cannot be decompressed into an intelligible form yet can be compared to uncompressed content for equality, and wherein the one or more highly compressed content pieces constitute a subset of the total number of highly compressed content pieces, and the number of pieces included in the subset varies can vary based on the available memory and the amount of memory required for each piece;

a comparator, coupled to the memory, the comparator configured to:

extract an energy sample for each segment of a portion of media content in the media player using a predetermined technique, wherein the same predetermined technique was used to generate the highly compressed content pieces;

select a group of the energy samples of the media content, the group having the same number of energy samples as the groups of the highly compressed content pieces;

to compare the subset of the one or more highly compressed content pieces located in the media player to media content being played by the

device media player, wherein comparing comprises comparing the energy samples in each group of the highly compressed content pieces to the energy samples of the group selected based on the media content; and to

determine whether the media content matches at least one of the one or more highly compressed content pieces in the subset, determining comprising identifying a match between a group of energy samples of a highly compressed content piece and the group of the energy samples of the portion of media content to be played back when the difference between the energy samples of the two groups is within a threshold amount; and

a resolver, coupled to the comparator, to take a particular action in response to the comparator indicating the media content matches one of the plurality of highly compressed content pieces in the subset, wherein the particular action comprises;

checking to see whether the device media player has a valid license for the media content;

and contacting a remote device to perform a more thorough analysis of whether the media content matches any of the plurality of highly compressed content pieces in the subset; and

notifying a publisher of the media content of an existence of pirated media content when the more thorough analysis confirms the portion of media content matches any of the subset of highly compressed content pieces.

**17. (Canceled)**

**18.** (Cancelled).

**19.** (Cancelled).

**20.** (Currently Amended) A device media player as recited in claim 16, wherein the memory is further to store the media content.

**21.** (Currently Amended) A device media player as recited in claim 16, further comprising a playback controller, coupled to the memory, to receive the media content from an external source.

**22.** (Currently Amended) A device media player as recited in claim 21, wherein the external source comprises a CD.

**23.** (Currently Amended) A device media player as recited in claim 16, further comprising an interface, coupled to the memory, to receive the one or more highly compressed content pieces from a compressed content source.

**24.** (Currently Amended) A device media player as recited in claim 16, further comprising a compressor, coupled to the memory, to receive media content and generate the one or more highly compressed content pieces.

**25.** (Currently Amended) A ~~device~~ media player as recited in claim 16, wherein the comparator is to determine whether the content matches any of the plurality of highly compressed content pieces in the subset by comparing a first set of feature values associated with each of the plurality of highly compressed content pieces with a second set of feature values associated with the content, and checking whether at least a threshold number of the first set of feature values is within threshold distance of the second set of feature values.

**26.** (Currently Amended) A ~~device~~ media player as recited in claim 25, wherein the first set of feature values and the second set of feature values each comprises a set of audio energy features.

**27.** (Currently Amended) A ~~device~~ media player as recited in claim 16, wherein the ~~device~~ media player comprises a portable music player.

**28.** (Currently Amended) A ~~device~~ media player as recited in claim 16, wherein each of the one or more highly compressed content pieces further indicates whether a license is required for playback of the corresponding media content.

**29.** (Currently Amended) A method implemented in a ~~device~~~~media player~~, the method comprising:

[[.]]

extracting an energy sample for each segment of a portion of media content in the ~~device~~~~media player~~ using a predetermined technique, wherein the same predetermined technique was used to generate highly compressed content pieces comprising groups of energy samples of content, the highly compressed content pieces ~~versions~~ of portions of content created in a manner ~~so~~ such that the highly compressed form cannot be decompressed into an intelligible form yet can be compared to uncompressed content for equality;

selecting a group of the energy samples of the media content, the group having the same number of energy samples as the groups of the highly compressed content pieces ~~of the same size as groups used in generating the highly compressed content pieces~~.

comparing a portion of the media content located in the ~~device~~~~media player~~ to a subset of one or more highly compressed content pieces ~~of content~~ located in the ~~device~~~~media player~~, wherein the comparing comprises comparing the energy samples ~~a value of the energy~~ in each group of the highly compressed content pieces to the energy samples of the group selected based on the media content;

determining whether the portion of media content matches any of the subset of highly compressed content pieces, the determining comprising identifying a match between ~~that~~ group of energy samples of ~~the~~ highly compressed content piece and the group of the energy samples of the portion of media content to be played back when the ~~values for~~ difference between the energy samples of the two groups ~~are~~ is within a threshold amount;

taking a programmed action when the portion of media content matches any of the subset of highly compressed pieces, the programmed action comprising notifying a publisher of the media content of the existence of pirated content; and

playing back the media content by the media player when the determining indicates the portion of media content does not match any of the subset of highly compressed pieces.

**30. (Original)** A method as recited in claim 29, wherein the portion of media content comprises a song.

**31. (Original)** A method as recited in claim 29, wherein the portion of media content comprises a video clip.

**32. (Original)** A method as recited in claim 29, further comprising performing the comparing while the portion of media content is being played.

**33. (Original)** A method as recited in claim 29, further comprising performing the comparing while the portion of media content is being downloaded from a content source.

**34. (Previously presented)** A method as recited in claim 29, further comprising receiving the subset of highly compressed pieces from a highly compressed content piece source.

**35.** (Previously presented) A method as recited in claim 34, further comprising subsequently receiving a new subset of highly compressed pieces from the highly compressed content piece source, and replacing the subset with the new subset.

**36.** (Currently Amended) A method as recited in claim 29, further comprising:

receiving content from a content source;

generating a highly compressed content piece based on the received content; and

adding the generated highly compressed content piece to the subset of highly compressed pieces.

**37.** (Currently Amended) A method implemented in a content player, the method comprising:

extracting an energy sample for each segment of a portion of media content in the content player using a predetermined technique, wherein the same predetermined technique was used to generate highly compressed content pieces comprising groups of energy samples of content, the highly compressed content pieces created in a manner such that the highly compressed form cannot be decompressed into an intelligible form yet can be compared to uncompressed content for equality;

selecting a group of the energy samples based on the media content, the group having the same number of energy samples as the groups of the highly compressed content pieces;

comparing a portion of the media content located in the content player, the media content comprising audio content, to a subset of one or more highly compressed content pieces located in the content player of content, wherein highly compressed pieces of content are versions of portions of content created in a manner so that the highly compressed form cannot be decompressed into an intelligible form yet can be compared to uncompressed content for equality, and wherein the number of highly compressed content pieces included in the subset can vary varies based on the available memory in the storage device and the storage required for each piece, and the comparing comprises comparing the energy samples in each group of the highly compressed content pieces to the energy samples of the group selected based on the media content;

determining whether the portion of media content matches any of the subset of highly compressed content pieces, the determining comprising identifying a

match between a group of energy samples of a highly compressed content piece and the group of the energy samples of the portion of media content to be played back when the difference between the energy samples of the two groups is within a threshold amount; and

    taking a programmed action when the portion of media content matches any of the subset of highly compressed pieces, wherein the programmed action comprises:

        checking whether one of a plurality of licenses maintained at the content player performing the comparing corresponds to the portion of media content; and

        contacting a remote device to perform a more thorough analysis of whether the content matches any of the plurality of highly compressed content pieces; and

notifying a publisher of the media content of an existence of pirated media content when the more thorough analysis confirms the portion of media content matches any of the subset of highly compressed content pieces.

**38.** (Previously presented) A method as recited in claim 29, wherein the determining comprises:

    comparing a first subset of feature values associated with each of the plurality of highly compressed pieces with a second subset of feature values associated with the portion of media content; and

    checking whether at least a threshold number of the first subset of feature values is within threshold distance of the second subset of feature values.

**39.** (Previously presented) A method as recited in claim 38, wherein the first subset of feature values and the second subset of feature values each comprises a set of audio energy features.

**40.** (Currently Amended) One or more computer-readable memories containing a computer program that is executable by a processor of a device media player to perform a method comprising:

extracting an energy sample for each segment of a portion of media content in a media player using a predetermined technique, wherein the same predetermined technique was used to generate highly compressed content pieces comprising groups of energy samples of content, the highly compressed content pieces created in a manner such that the highly compressed form cannot be decompressed into an intelligible form yet can be compared to uncompressed content for equality;

selecting a group of the energy samples of the media content, the group having the same number of energy samples as the groups of the highly compressed content pieces;

comparing, at the device media player, a portion of the media content to a subset of one or more highly compressed content pieces located in the media player of content, wherein highly compressed pieces of content are versions of portions of content that are created in a manner so that the highly compressed form cannot be decompressed into an intelligible form yet can be compared to uncompressed content for equality, and wherein;

the number of pieces included in the subset can vary based on the available memory in the a storage device of the device media player and the storage required for each piece, and

the comparing comprises comparing the energy samples in each group of the highly compressed content pieces to the energy samples of the group selected based on the media content;

determining whether the portion of media content matches any of the subset of highly compressed content pieces, the determining comprising identifying a match between a group of energy samples of a highly compressed content piece and the group of the energy samples of the portion of media content to be played back when the difference between the energy samples of the two groups is within a threshold amount;

checking, [[if]] when the portion of media content matches any of the subset of highly compressed content pieces, whether a valid license for the media content is present at the device media player;

contacting a remote device to perform a more thorough analysis of whether the media content matches any of the plurality of highly compressed content pieces;

notifying a publisher of the media content of an existence of pirated media content when the more thorough analysis confirms the portion of media content matches any of the subset of highly compressed content pieces; and

rendering the media content by the media player [[if]] when the determining indicates the portion of media content does not match any of the subset of highly compressed pieces.

**41. (Currently Amended)** A device media player comprising:  
means for storing a subset of highly compressed content pieces, wherein  
highly compressed content pieces comprise groups of energy samples of content,  
the highly compressed content pieces are versions of portions of content that are  
created in a manner so such that the highly compressed form cannot be  
decompressed into an intelligible form yet can be compared to uncompressed  
content for equality, and wherein the number of pieces included in the subset can  
vary based on the available memory in the means for storing storage device and  
the storage required for each piece;

means for determining, at the device media player, whether a portion of  
media content located in the device media player, the portion of media content  
having undergone conversion comprising conversion between digital and analog,  
matches any of the subset of highly compressed content pieces located in the  
device media player, the means for determining performing steps comprising:

extracting an energy sample for each segment of a portion of media  
content in the media player using a predetermined technique, wherein the  
same predetermined technique was used to generate the highly compressed  
content pieces;

selecting a group of the energy samples of the media content, the  
group having the same number of energy samples as the groups of the  
highly compressed content pieces;

comparing the subset stored in the means for storing to a portion of  
the media content located in the media player, wherein comparing  
comprises comparing the energy samples in each group of the highly

compressed content pieces to the energy samples of the group selected based on the media content; and

identifying a match between a group of energy samples of a highly compressed content piece and the group of the energy samples of the portion of media content to be played back when the difference between the energy samples of the two groups is within a threshold amount;

means for taking a particular action [[if]] when the portion of media content matches any of the subset of highly compressed content pieces, the particular action comprising notifying a publisher of the media content of the existence of pirated media content; and

means for playing back the media content [[if]] when the determining indicates the portion of media content does not match any of the subset of highly compressed content pieces.

**42. (Currently Amended)** A device media player as recited in claim 41, further comprising means for receiving an update subset of highly compressed content pieces and replacing the subset of highly compressed content pieces with the update subset of highly compressed content pieces.

**43. (Currently Amended)** A device media player as recited in claim 41, further comprising means for receiving the subset of highly compressed content pieces.

**44. (Currently Amended)** A device media player as recited in claim 41, further comprising means for generating the subset of highly compressed content pieces.

**45. (Currently Amended)** A device media player as recited in claim 41, wherein the means for storing is further for storing the portion of media content.

**46. (Currently Amended)** One or more computer storage media having stored thereon a plurality of instructions that, when executed by one or more processors of a computer content player, causes the one or more processors to perform acts including comprising:

checking, at the computer content player, whether a portion of media content matches a piece of highly compressed content, the checking comprising:

extracting an energy sample for each segment of a portion of media content in the content player using a predetermined technique, wherein the same predetermined technique was used to generate pieces of highly compressed content comprising groups of energy samples of content, the pieces of highly compressed content created in a manner such that the highly compressed form cannot be decompressed into an intelligible form yet can be compared to uncompressed content for equality;

selecting a group of the energy samples of the media content, the group having the same number of energy samples as the groups of the pieces of highly compressed content;

comparing a portion of the media content located in the content player to a subset of one or more pieces of highly compressed content located in the content player, wherein the comparing comprises comparing the energy samples in each group of the pieces of highly compressed content to the energy samples of the group selected based on the media content; and

determining whether the portion of media content matches any of the subset of pieces of highly compressed content, the determining comprising identifying a match between a group of energy samples of a piece of highly compressed content and the group of the energy samples of the portion of media content to be played back when the difference between the energy samples of the two groups is within a threshold amount

wherein a piece of highly compressed content are a version of a portion of content that is created in a manner so that the highly compressed form cannot be decompressed into an intelligible form yet can be compared to uncompressed content for equality, and wherein the piece of highly compressed content cannot be played back to a user in an intelligible form;

allowing the portion of media content to be played back [[if]] by the content player when the portion of media content does not match the piece of highly compressed content; and

taking a particular action [[if]] when the portion of media content does match the piece of highly compressed content, wherein the particular action comprises;

obtaining an additional piece of highly compressed content in order to perform a more thorough analysis of whether the media content matches the piece of highly compressed content; and

notifying a publisher of the media content of the an existence of pirated content.

**47. (Previously Presented)** One or more computer storage media as recited in claim 46, wherein the portion of media content includes one or more of audio content and video content.

**48. (Previously Presented)** One or more computer storage media as recited in claim 46, wherein the plurality of instructions further cause the one or more processors to perform acts including receiving the piece of highly compressed content from a highly compressed content source.

**49. (Previously Presented)** One or more computer storage media as recited in claim 48, wherein the plurality of instructions further cause the one or more processors to perform acts including subsequently receiving a new piece of highly compressed content from the highly compressed content source, and replacing the piece with the new piece.

**50. (Previously Presented)** One or more computer storage media as recited in claim 46, wherein the plurality of instructions further cause the one or more processors to perform acts including:

receiving content from a content source; and

generating the piece of highly compressed content based on the received content.

**51. (Previously Presented)** One or more computer storage media as recited in claim 46, wherein the checking comprises:

comparing a first set of feature values associated with the piece of highly compressed content with a second set of feature values associated with the portion of media content; and

checking whether at least a threshold number of the first set of feature values is within threshold distance of the second set of feature values.

**52. (Previously Presented)** One or more computer storage media as recited in claim 51, wherein the first set of feature values and the second set of feature values each comprises a set of audio energy features.

**Claims 53-57. (Canceled).**

**58. (Previously Presented)** A method as recited in claim 29, wherein the media content comprising the portions of media content has undergone conversion.

**59. (Previously Presented)** A method as recited in claim 58, wherein the conversion comprises conversion between digital and analog.

The following is an examiner's statement of reasons for allowance: While the prior art provided teachings of detecting pirated content in a content player by comparing the content with known pirated content, the prior art failed to teach or suggest the comparison being performed by extracting energy samples from a portion of the content, selecting a group of the extracted samples, and comparing the samples to samples of highly compressed content pieces in the specific combination of elements as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

Claims 1-16, 20-52, 58, and 59 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW T. HENNING whose telephone number is (571)272-3790. The examiner can normally be reached on M-F 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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